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Biology Department

Winter 2017

Lifelines Winter 2017

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Recommended Citation

Southern Adventist University, "Lifelines Winter 2017" (2017). *Lifelines - Departmental Newsletter*. 17.
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Biology/Allied Health Department

Insights From The Professor The Joys and Struggles of Becoming a Life-Long Learner

Year after year, as new freshmen classes arrive, I see a trend emerging: students, across the board, are so focused on what they hope to be that they lose sight of being present and growing in the moment. Their excitement is understandable, and in some respects laudable; however, it is not without its dangers.

I remember my first year of college. The first time I met my advisor (also Dr. Nelson) I informed him that I wanted to do research and go to graduate school. I was driven by my dreams of becoming a research professor. Everything I did in college was to fulfill that dream. I categorized each class either as related to my goals or as required (ugh!) to graduate. Undergraduate education became a hurdle to overcome; not always meant to help me fulfill my dream, but something that was sometimes in the way of my dream. Because of this mindset, my personal and intellectual growth was stunted, at least temporarily. It wasn't until I was well into my graduate studies that my view of learning changed. It was here that I discovered that not all those facts I had previously learned were as firmly rooted as I had thought and that there is still so much to discover.

I remembered a particular incident very clearly. I was sitting in Mammalogy class as an undergraduate, working on my research paper and thinking about the graduate student who had written the article I just read. How did he/she come up with an original research question—a question no one had asked before? I felt we knew so much; and the 1000-page textbook sitting next

to me, each page dripping with facts, seemed to confirm that. What could possibly be left to discover?

I think about that event often. If I only knew then how much there is yet to discover! It would have changed my attitude toward my undergraduate classes completely. I would not have categorized my classes as desired or required. Instead, I would have recognized that all classes are platforms from which new discoveries are made, ideas explored, and creativity cultivated. Isaac Newton, one of the greatest scientific minds, once said, “I do not know what I may appear to the world, but, to myself, I seem to have been only a boy playing on the seashore, and diverting myself in now and then finding a smoother pebble or a prettier shell than ordinary, whilst the great ocean of truth lay all undiscovered before me.”

There is not as much of a difference between what scientists do and what artists do than we generally think. To me, these approaches are simply different manifestations of the same process. Just like visible light is just one manifestation of the electromagnetic spectrum, history, art, and science are all slightly different manifestations of the process of discovery. The artist tries to understand the world they live in and express it through their art. In this way they are asking questions and discovering how the world works via their artistic endeavors. Likewise, scientists ask questions to discover how the world works. I realize now that I should not have been just an undergraduate student, I should have been a life-

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Power for Mind & Soul

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The Joys and Struggles of Becoming a Life Long Learner, continued from page 1

long learner in training.

What does it mean to be a life-long learner? To me, a life-long learner is someone who enjoys the process of learning no matter the subject. Someone who can draw inspiration from any discipline (art, philosophy, literature, history) and can apply it to their own (i.e., science). Unfortunately, much of our educational system has taught us to emphasize the outcome rather than the process of learning. We celebrate the “A” more than the journey we took to get there. I certainly enjoyed learning as an undergraduate, but I was more excited about learning the facts

(and getting an A) than I was about the journey. I mistook the facts and outcome with the purpose of an undergraduate. To me, it was a place where people learned how the world worked (facts), rather than a place for gaining a foundation and tools necessary to start their own journey of discovery.

How, then, can we change this trend? To be honest, I am not entirely sure. It seems like we need a complete change in our approach to education, from kindergarten through college. But one thing is clear: we must do something! If the Biology department at Southern is going

to continue to succeed into the future, we need to help students transition from being so future-focused that they lose sight of their present, into young professionals who enjoy the process of problem solving and want to stretch their imaginations. After all, being a person who enjoys learning and solving problems is ultimately a more employable skill than just knowing the facts. Undergraduate and alumni alike, please join us in creating a culture of life-long learners!

By David Nelsen

Students in Service

Tyler Hamilton & Jin Moon Serve at Shenandoah Valley Academy as Taskforce Workers

“Not this year; no, this is not the time for me,” were the first thoughts I had after getting off the phone with the Shenandoah Valley Academy (SVA), in Virginia, head dean. I had multiple things lined up for me in the upcoming year, and I was not ready to give that up, but God had different plans. As a pre-dental biology major, I had many classes I felt that I needed to take. I did not think I was ready, so I asked God to give me three signs showing me that I was supposed to go to SVA. These signs included the approval of a dental school, the approval of a professor, and for me not to be alone in my ordeal. I did not expect him to answer yes to any of them. Funny thing, he answered yes to all of them and even showed me more reasons why I should go.

Being a taskforce worker in the United States is not the most desired spot for people who wish to do mission work. I felt that way as well. I had told myself earlier that if I was going to be a missionary I would be in a foreign place, learning the language, culture, and live in a straw hut. Though there are many missionaries who are doing just that (not sure about living in a straw hut) I believe the harder mission work is here in the states.

I was not prepared for being a student dean. I thought I had high schoolers figured out. The year before, I was a counselor at a summer camp and experienced counseling high schoolers. I had also been a high schooler four years ago, so they couldn't be too different than me. Right? I was wrong.

When a missionary is in a foreign country, the majority of the people there are happy to see you. Making friends and relationships with the people there is almost immediate, especially with young people. It is different when you are in America. To them, you are just another faculty

member, another American. What makes you so special? So you must build your relationships from scratch. Though this is difficult, I find it more fulfilling. I am a people person, so this was one of my favorite parts of my mission work. I feel like I knew the students on a deeper level.



Jin Moon & Tyler Hamilton (to left in blue shirt) greeting students at the start of the school year.



Sunset at Shenandoah Valley Academy.

that you are there. Don't set long term goals, but set monthly goals. Say to yourself, "What do I plan on accomplishing this month?" Whether it be praying with one person per day or going out of your way to talk to

a person, make sure that you are making a difference in someone's life that day.

Don't let an opportunity for mission work slip by. Also, don't let mission work in the U.S. turn you off from being one. There

is just as much work that needs to be done here. Though the work is different, it can be just as fulfilling. Pray about it. See if God is calling you to be a missionary.

By Tyler Hamilton & Pictures by Jin Moon

Alumni Spotlight

Thomson Paris, Biology, Class of December 2007

After graduation from Southern Adventist University with a Bachelor of Science in Biology in December 2007, I began a Master's program in Entomology at the University of Florida finishing in May 2011. After completing a Master's, I continued into the doctoral program and finished May of 2016.

At the age of five, my mother read to me a book by Anna Weaver (*Eyes for Benny*, Rod and Staff publishers) about a Mennonite community in Kentucky who helped fulfill a bedridden boy's dream of an insect collection. The descriptions of forays into the fields for rare insects, sugaring trees for underwing and silk moths, releasing mantis egg cases in the bedroom, and the pure joy of discovery were fascinating. The night we finished the book, I took a Mason jar and captured a tiger moth on our porch light and placed it into the freezer. I was hooked. Both my Mom and Dad fostered my entomological interest with a butterfly net, assisted with pinning the prizes of my wanderings, and taking me to Lepidopterist meetings in Kentucky and Colorado. My grandmother also fostered a connection between a British Lepidopterist and our family. Several visits to our country home in Tennessee by this English taxidermist and his wife, along with another English Aurelian, were made in order to capture North American Lepidoptera.

A trip to Bolivia to collect tropical butterflies almost derailed my dream of being an entomologist. The poverty of La Paz, a national strike that stranded us for several days in the middle of the Bolivian jungle, and theft of my mother's wallet in broad daylight caused me to question the contribution an entomologist could make

to the world. As a result of my Bolivian experience, I chose to take the premedical track in college. I noticed, however, that my interests at Southern tended toward the field classes. Dr. Earl Aagaard's (former professor at Southern) Ornithology class was one of my favorites. Dr. David Ekkens' (another former professor at Southern) Entomology class at Rosario Beach Marine Station in Anacortes, Washington, was by far the most fun and interesting undergraduate course.

There was one particular collecting spot near Rosario that I will never forget. The mountain, Dr. Jim Nestler (summer coordinator) said, was in bloom. When we arrived at the crest of one of the foothills of the larger hills we were to climb, I saw *Parnassius* flying all around the car. Dr. Nestler was right, the various flowers on the hillside were indeed in full bloom and provided a perfect attraction for these Lepidopteran treasures. For three hours, I raced to capture as many new species of butterflies as possible before we had to head back. As I raced up the trail, stopping only to insert specimens into glassine envelopes, I was greeted by different types of Lycaenids, Nymphalids, and Arctiids at every turn. It was heart stopping. At the summit, a beautiful swallowtail eluded me. It didn't matter, though, the collecting was that good.

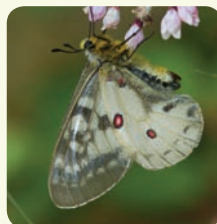
My understanding of how I can contribute to the needs of my world has grown. I now believe that as an entomologist, I can be the catalyst for positive change. I see my profession as

an interpreter of nature for people that are confined in biological deserts. I am also eager to educate and defend the stewardship of our natural world. I am proud that the Seventh-day Adventist church maintains a belief in a literal and contiguous seven-day creation. I have been blessed by the thoughtful responses and serious grappling with the complexities of the natural world by scientists from various institutions around the world and at Southern. Dr. Lee Spencer's (also a former professor at Southern) class at Southern on evolution provided me one of the most honest portrayals of our current understanding of the fossil record, evolution, and how faith and science should intersect.

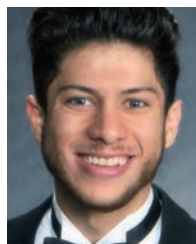
As a scientist and an Adventist, I can assist and be at the forefront of scientific discovery because of our philosophy about the natural world. I am committed to being part of this process by communicating a God-centered paradigm of the natural world, and also by assisting in scientific investigations to establish a God-centered view as a reasonable option in the scientific community. I do not see the scientific community as the enemy, but rather as a community dedicated to the simple goal of finding the truth about why things are the way they are.

Currently, I'm working as a post-doctoral researcher in conjunction with the United States Department of Agriculture and the University of Florida. My project involves using RNA interference to silence genes in a pest of citrus called the Asian citrus psyllid.

By Thomson Paris & Rick Norskov



Allied Health & Biology Graduates 2016-2017



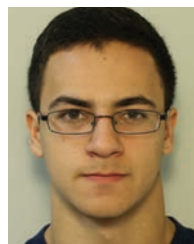
Jonathan Castro
Physical Therapy



Ryan Dobson
Physical Therapy



Loany Garrido
Physical Therapy



Nelson Gomez
Physical Therapy



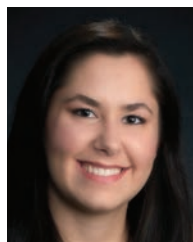
Lisamarie Heldzinger
Nutrition/Dietetics



Bence Ho
Physical Therapy



Maria Kim
Physical Therapy



Kathryn King
Physical Therapy



Austin Lee
Physical Therapy



Robert Moore
Phys Ther/HPEW/REL



Arlene Moreno
Nutrition/Dietetics



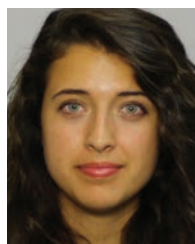
Cristina Nieves
Speech Lang Pathology



Ellis Oda
Physical Therapy



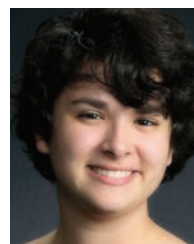
Kevyn Salazar
Dental Hygiene



Lindsey Sutton
Physical Therapy



Shaina Ahles
BA Biology



Jasmine Arellano
BA Biology



Krista Bonney
BS Biology



Amy Castillo
BS Biomedical



Kylo Cautivar
BS Biomedical



Matthew Chang
BS Biomedical



Da Dang
BS Biomedical



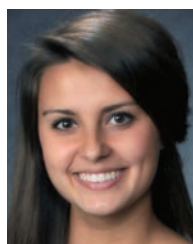
Emily Dickerhoff
BA Biology



Franklin Dorsey
BA Biology



Jasmin Duany
BA Biology



Sidney Dunn
BA Biology



Adam Gagnon
BA Biology



Daniel Hamilton
BS Biomedical



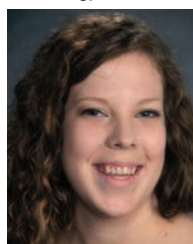
Christine Han
BS Biology



Charisma Ibalio
BS Biomedical



Justin Im
BS Biomedical



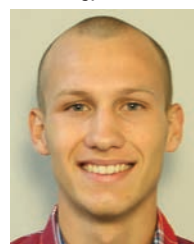
Megan Jewell
BA Biology



Jamila Labeach
BA Biology



Grace Lee
BS Biomedical



Jared Lewis
BS Research

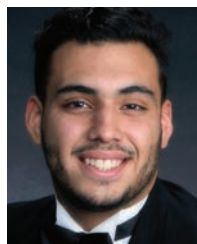


Marselinny Mawuntu
BS Res/Nutrition

Allied Health & Biology Graduates 2016-2017 (con't.)



Austin Menzmer
BS Biology



Armando Morales
BS Biomedical



Adrianna Panjaitan
BS Biomedical



Morgan Payne
BA Biology



Kenneth Scott
BA Biology



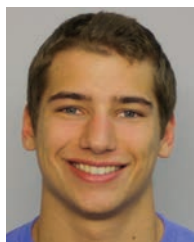
Tise Suzuki
BS Biomedical



Jonathan Tangunan
BA Biology



Miki Tsuchiya
BS Biomedical



Adam Vollberg
BA Biology



Weston Young
BA Biology

Origins

“Nothing in the World Makes Sense Except in the light of Genesis.”

On February 23, the documentary “Is Genesis History?” premiered in theaters across North America. In the video, host Del Tackett of Focus on the Family takes viewers to some spectacular locations where he interviews highly trained scientists in fields such as biology, geology, paleontology and astronomy.

Several of the featured scientists are creationist friends and colleagues who have given origins presentations here at Southern; Dr. Marcus Ross from Liberty University, Dr. Kurt Wise from Truett McConnell University, Dr. Todd Wood from the CORE Academy of Science, and Dr. Robert Carter from Creation Ministries International.

Dr. Steven Boyd, a Hebrew scholar, points out that the Genesis account of creation and the flood was written as a narrative of actual historical events and should be interpreted literally.

Several scientists discuss evidence from geology and paleontology showing how a catastrophic event such as Noah’s

flood can actually explain some of the data better than the evolutionary model. Art Chadwick, from Southwestern Adventist University, explains that at the Dino Dig in Wyoming, a world class bone bed that shows evidence of catastrophic processes rather than slow deposition of fossils and sediments over long ages. Biology professors, students and administrators from Southern Adventist University have participated in the Dino Dig in Wyoming, which was co-founded by Dr. Chadwick and Dr. Lee Spencer, a retired research professor at Southern Adventist University.

Some of the powerful arguments against evolutionary theory come from proponents of Intelligent Design, which is not the same as Young Earth Creationism. Dr. Paul Nelson is a philosopher of science from the Discovery Institute who explores scientific evidence of design in nature. In his interview, he was portrayed as saying that there are two paradigms in the origins debate; the conventional evolutionary paradigm which requires long ages and the

historical Genesis paradigm. However, in an article released by the Discovery Institute on February 23, he makes it clear that he believes there are multiple viewpoints about origins and about the time scale involved, both among Christians and in the secular world.¹

In reality, creationist scientists do not agree on every interpretation that is depicted in the video. Our knowledge and understanding of science is constantly changing. But what is clear in this faith affirming video is that credible scientists believe that there is abundant evidence that is consistent with a Biblical worldview—and that much of the data is consistent with the belief that Genesis is indeed history.

By Del Tackett

¹“New Film Is Genesis History?” Presents a False Dichotomy: I Dissent from My Role in It, by Paul Nelson. https://www.evolutionnews.org/2017/02/new_film_is_gen/



Department Happenings

Advocates across campus for Brain Awareness Week (March 12-17) successfully enlightened large numbers of students about the anatomy, physiology, and proper care of the brain. Students had the opportunity of taking a guided tour through a huge brain structure located in the student center. Several of our students were the primary guides for this popular tour.

Eight students and two professors attended the regional Association of Southeastern Biologist (ASB) meetings in Montgomery, Alabama (March 29-30). Two students gave oral presentations of their research, and one had a poster presentation. We are proud of the research occurring in our department.

The Allied Health and Pre-dental clubs visited the Bodies Exhibit in Atlanta on April 7. The intricate preparations of muscles, nerves, and organs help bring praise to our magnificent Creator. The displays of the nervous system and organs were special highlights.

Dr. Ben Thornton has spearheaded the Arboretum Project on campus. Funding has been obtained, high-quality equipment has been purchased, and four biology students are currently mapping all trees on campus. The ultimate goal is increasing the diversity of trees, labeling them, and planting new species to enhance the appreciation of diversity in the fauna on campus.

The General Biology class of 120 students spent the weekend

of April 7-9 camping just outside the Great Smoky Mountains National Park. The weather was wonderfully bright even though a bit cool. We woke up to frost on our tents both Sabbath and Sunday mornings.

Friday, we hiked up the Porter Creek trail to the waterfall, looking for 30+ species of wildflowers, insects, birds, lichens, fungi, and a variety of other things.

By Keith Snyder

